

Amendments to the Claims

1. (currently amended): A method for producing a polymer drag reducing agent, comprising:

mixing a monomer and a catalyst in at least one continuously stirred tank reactor (CSTR) to form a mixture;

continuously injecting the mixture into a volume continuously formed by a

thermoplastic polar solvent-soluble thermosealing material;

periodically sealing off the ~~thermoplastic~~ thermosealing material into a temporary container;

permitting the monomer to polymerize in the temporary container to form polymer;

removing the temporary container with a polar solvent; and

grinding the polymer ~~and the temporary container~~ to produce particulate polymer drag reducing agent.

2. (currently amended): The method of claim 1 where ~~in the continuous injecting, the thermoplastic material is low density polyethylene~~ the polar solvent-soluble thermosealing material is selected from the group consisting of polyvinyl alcohol and polyvinyl acetate having at least some hydroxyl functionality.

3. (currently amended): The method of claim 1 where ~~in the periodic sealing off of the thermoplastic material~~, the point at which the sealing off occurs to form the temporary container is selected from the group consisting of (1) the mixture reaching a predetermined viscosity, (2) the polymer reaching a predetermined molecular weight, and (3) a combination of (1) and (2).

4. (original): The method of claim 1 where in permitting the monomer to polymerize in the temporary container, the containers are placed in an inert environment.

5. (currently amended): The method of claim 4 where ~~in the permitting the monomer to polymerize in the temporary container,~~ the inert environment is a bath of circulated fluid that removes heat of polymerization from the polymer.
6. (currently amended): The method of claim 1 where ~~in grinding the polymer and the temporary container,~~ the grinding is conducted at a temperature above the glass transition temperature of the polymer.
7. (currently amended): The method of claim 1 where ~~in grinding the polymer and the temporary container,~~ the grinding is conducted in the presence of a grinding aid.
8. (currently amended): The method of claim 7 where ~~in grinding the polymer and the temporary container,~~ the grinding aid is a solid organic grinding aid having a size between about 1 and about 50 microns.
9. (currently amended): The method of claim 7 where ~~in grinding the polymer and the temporary container,~~ the grinding aid is selected from the group consisting of ethene/butene copolymer, paraffin waxes, solid alcohols, and mixtures thereof.
10. (currently amended): The method of claim 7 1 where in at least some grinding of the polymer and the temporary container, a portion of the ground temporary container and a portion of excess grinding aid, if any, are removed from the ground polymer is conducted in the presence of a process fluid comprising the polar solvent having at least a portion of thermosealing material dissolved therein.
11. (original): The method of claim 1 further comprising combining the particulate polymer drag reducing agent with a dispersing fluid to form a slurry product.

12. (currently amended): The method of claim 4 ~~11~~ where ~~in combining the particulate polymer drag reducing agent with a dispersing fluid,~~ the dispersing fluid is a mixture of at least two hydrocarbon fluids comprising a first fluid having a melting point above a melting point of a second fluid.

13. (original): The method of claim 12 where in the dispersing fluid, the first fluid ranges from about 30 wt% to about 35 wt% and the second fluid ranges from about 40 wt% to about 45 wt% based on the total volume of the dispersing fluid.

14. (currently amended): The method of claim 12 ~~where the first fluid is petrolatum~~ where the polar solvent is selected from the group consisting of water, ethylene glycol, propylene glycol, diethylene glycol, dipropylene glycol, isopropyl alcohol, butyl alcohol, dipropylene glycol methyl ether, and mixtures thereof.

15. (original): The method of claim 1 where in mixing the monomer and the catalyst, the monomer is an alpha-olefin.

16. (currently amended): The method of claim 1 ~~where in the grinding,~~ the particulate polymer drag reducing agent has an average particle size of equal to or less than about 600 microns.

17. (canceled)

18. (currently amended): The method of claim 1 ~~where in the grinding,~~ the grinding is conducted at ambient temperatures.

19. (currently amended): A method for producing a polymer drag reducing agent, comprising:

mixing a monomer and a catalyst in at least one continuously stirred tank reactor (CSTR) to form a mixture;

continuously injecting the mixture into a volume continuously formed by a ~~thermoplastic~~ polar solvent-soluble thermosealing material;
periodically sealing off the ~~thermoplastic~~ thermosealing material into a temporary container;
permitting the monomer to polymerize in the temporary container in an inert environment to form polymer;
removing the temporary container with a polar solvent; and
grinding the polymer and the temporary container at a temperature above the glass transition temperature of the polymer to produce particulate polymer drag reducing agent.

20. (currently amended): The method of claim 19 where ~~in the continuous-injecting, the thermoplastic material is low density polyethylene~~ the polar solvent-soluble thermosealing material is selected from the group consisting of polyvinyl alcohol and polyvinyl acetate having at least some hydroxyl functionality.

21. (currently amended): The method of claim 19 where ~~in the periodic sealing-off of the thermoplastic material,~~ the point at which the sealing off occurs to form the temporary container is selected from the group consisting of (1) the mixture reaching a predetermined viscosity, (2) the polymer reaching a predetermined molecular weight, and (3) a combination of (1) and (2).

22. (original): The method of claim 19 where in the permitting the monomer to polymerize in the temporary container, the inert environment is a bath of circulated fluid that removes heat of polymerization from the polymer.

23. (currently amended): The method of claim 19 where ~~in grinding the polymer and the temporary container,~~ the grinding is conducted in the presence of a grinding aid.

24. (currently amended): The method of claim 23 ~~where in grinding the polymer and the temporary container,~~ the grinding aid is selected from the group consisting of ethene/butene copolymer, paraffin waxes, solid alcohols, and mixtures thereof.

25. (currently amended): The method of claim ~~23~~ 19 ~~where in~~ at least some grinding of the polymer ~~and the temporary container, a portion of the ground temporary container and a portion of excess grinding aid, if any, are removed from the ground polymer~~ is conducted in the presence of a process fluid comprising the polar solvent having at least a portion of thermosealing material dissolved therein.

26. (original): The method of claim 19 further comprising combining the particulate polymer drag reducing agent with a dispersing fluid to form a slurry product.

27. (currently amended): The method of claim ~~19~~ 26 ~~where in combining the particulate polymer drag reducing agent with a dispersing fluid,~~ the dispersing fluid is a mixture of at least two hydrocarbon fluids comprising a first fluid having a melting point above a melting point of a second fluid.

28. (original): The method of claim 27 where in the dispersing fluid, the first fluid ranges from about 30 wt% to about 35 wt% and the second fluid ranges from about 40 wt% to about 45 wt% based on the total volume of the dispersing fluid.

29. (currently amended): The method of claim 19 ~~where in the grinding,~~ the particulate polymer drag reducing agent has an average particle size of equal to or less than about 600 microns.

30. (currently amended): The method of claim 19 ~~where in the grinding, the grinding is conducted in the absence of cryogenic temperatures~~ the polar solvent

is selected from the group consisting of water, ethylene glycol, propylene glycol, diethylene glycol, dipropylene glycol, isopropyl alcohol, butyl alcohol, dipropylene glycol methyl ether, and mixtures thereof.

31. (currently amended): The method of claim 19 where ~~in the grinding,~~ the grinding is conducted at ambient temperatures.

32. (currently amended): A slurry of particulate polymer drag reducing agent comprising:

a particulate polymer drag reducing agent; and

a dispersing process fluid, where the dispersing process fluid comprises:

a ~~first hydrocarbon fluid~~ polar solvent; and

a ~~second hydrocarbon fluid, where the first hydrocarbon fluid has a melting point above the melting point of second hydrocarbon fluid~~ a polar solvent-soluble thermosealing material dissolved in the polar solvent.

33. (currently amended): The slurry of claim 32 where ~~in the dispersing fluid, the first fluid ranges from about 30 wt % to about 35 wt % and the second fluid ranges from about 40 wt % to about 45 wt % based on the total volume of the dispersing fluid~~ the polar solvent is selected from the group consisting of water, ethylene glycol, propylene glycol, diethylene glycol, dipropylene glycol, isopropyl alcohol, butyl alcohol, dipropylene glycol methyl ether, and mixtures thereof.

34. (canceled) The slurry of claim 32 where ~~the first fluid is petrolatum~~ polar solvent-soluble thermosealing material is selected from the group consisting of polyvinyl alcohol and polyvinyl acetate having at least some hydroxyl functionality.

35. (original): The slurry of claim 32 where the particulate polymer drag reducing agent is polyalpha-olefin.

36. (original): The slurry of claim 32 where the particulate polymer drag reducing agent has an average particle size of equal to or less than about 600 microns.

37. (original): The slurry of claim 32 further comprising a grinding aid.

38. (original): The slurry of claim 37 where the grinding aid is a solid organic grinding aid having a size between about 1 and about 50 microns.

39. (original): The slurry of claim 37 where the grinding aid is selected from the group consisting of ethene/butene copolymer, paraffin waxes, solid alcohols, and mixtures thereof.

40. (original): A slurry of particulate polymer drag reducing agent comprising:
a particulate polyalpha-olefin drag reducing agent having an average
particle size of equal to or less than about 600 microns; and
a dispersing process fluid, where the dispersing process fluid comprises:
a ~~first hydrocarbon fluid~~ polar solvent; and
a ~~second hydrocarbon fluid, where the first hydrocarbon fluid has a~~
~~melting point above the melting point of second hydrocarbon~~
~~fluid~~ a polar solvent-soluble thermosealing dissolved in the
polar solvent.

41-45. (canceled)